TABLE OF CONTENTS

CV ANTISUBMARINE WARFARE MODULE (ASWM) AUTOMATIC DATA PROCESSING (ADP) PQS USER'S GUIDE

This guide will explain the Personnel Qualification Standards (PQS) what it is, and how to use it.

I. WHAT IS PQS?

PQS is a part of your Command's overall training program. It provi minimum requirements to qualify on a Watchstation/Workstation. It is a for qualifying officer and enlisted personnel in certain assigned dutie PQS will assist you in becoming a more productive member of the "combat qualified Navy team."

II. WHAT MAKES UP THE PQS PROGRAM?

The PQS program consists of the Standard booklet and the Progress C

A. The Standard booklet contains questions you must be able to an performance items you must be able to do in order to qualify for a part Watchstation/Workstation. Standards are written by naval personnel aft themselves, "What do I need to know to do the job properly?"

The Standard booklet is made up of the following parts:

1. TABLE OF CONTENTS
2. USER'S GUIDE
3. DEFINITIONS OF WORDS USED IN PQS
4. CONTRIBUTING FLEET PERSONNEL
5. ENLISTED SURFACE WARFARE SPECIALIST (ESWS) CROSS-REFERENCE
6. FUNDAMENTALS AND SYSTEMS SUMMARY
7. FUNDAMENTALS (100 SECTION)
8. SYSTEMS (200 SECTION)
9. QUALIFICATION SECTION
10. WATCHSTATIONS/WORKSTATIONS (300 SECTION)
11. FEEDBACK FORM

B. The Progress Chart is used to display all the Standards in pro that have been completed by your division or work center. Your divisio uses the progress chart to determine who is qualified to stand the wate perform the tasks required by your division. You should check the proc chart periodically to make sure all of the Standards you have completed been recorded.

III. PQS FORMAT

B. Each Fundamental, System and Watchstation/Workstation is assigned our-digit number.

Example: 2224

2 - Indicates qualification area (2 = Automatic Data Processing (
224 - Indicates section 2 (System section) and that it is the 24th

In the Systems section of your Standard booklet, you may find a format uch as the following example. For item .21 you must answer questions A ar or item .21 a. questions A, B, C and D are required. If there is no grid ll questions must be answered.

2224.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and component parts:

A. What is its function?
B. Where is it located?
C. What are the modes of operation or control?
D. What are the positions and functions of each position?

		A	B	C	D
.21	Adapter test panel	X	X		
	a. Teletype speed (words per minute) rotary switch	X	X	X	X

C. Qualification Group Numbering System

The Watchstation/Workstation section (300) is divided into qualifi roups. Your book may be used for more than one final qualification such a ntisubmarine Warfare Module (ASWM) Automatic Data Processing (ADP) Operato Advanced). Each group is indicated on a Final Qualification Sign-Off Page ollows:

Example: NAVEDTRA 43205-2AQ1

43205 - Indicates NAVEDTRA number assigned to the PQS packag
2 - Indicates Automatic Data Processing (ADP)
A - Indicates first revision
Q1 - Indicates the first qualification group

1. FUNDAMENTALS (100 Section) This section identifies basic know eeded to do the job properly. Normally you would have acquired this knowl uring the school phase of your training. If you have not been to school

3. WATCHSTATIONS/WORKSTATIONS (300 Section) - This section co
the procedures you need to know to properly perform your job. Watchsta
Workstations are divided into final qualification "groups" (Qual 1, Qua
with each group containing the following:

a. Final Qualification Sign-Off Page

Final record that is filed in your training jacket and recorded in your Service Record upon final qualification

b. Qualification Summary Page

Record of completion of other PQS qualifications, and Watchstations/Workstations within a qualification group

c. Watchstations/Workstations (Task Sign-Off Pages)

Record of completion of performed tasks for each Watchstation/Workstation and instruction watches required by each Watchstation in a qualification group

IV. HOW TO QUALIFY

A. Your division officer or work center supervisor will issue you PQS booklet. Your supervisor will assign Watchstations/Workstations an time limits (goals) for completing your qualification. Progress toward qualification will be monitored on the division/work center Progress Ch The estimated completion time, shown at the beginning of each Watchstat Workstation, is only a recommendation and may be modified by your comma It indicates how long it will take the average sailor under normal cond to complete each Watchstation/Workstation.

B. Open your Standard booklet to your assigned Watchstation/Works At the beginning of the Watchstation/Workstation you will find a list o that must be completed before starting your tasks. Standards may inclu Watchstations/Workstations other than the one on which you are working. Concentrate on the prerequisites for the Watchstation/Workstation to wh you have been assigned and do not delay your qualification by spending on others.

C. Complete the Safety Precautions Fundamentals first, then the r the required Fundamentals and Systems. Your supervisor may require you complete these in a certain order, if not, the choice is up to you. If not know the answer to a question in the Standard booklet, look up the

V. THE SUPERVISOR

A. As a senior petty officer, you will be required to assign ju personnel to complete specific Watchstations/Workstations in PQS. Wh do this, always look through the Standard booklet to determine other that should be completed before work is started on the required Watch Workstations or related Fundamentals and Systems. If you are assigni than one Watchstation/Workstation or section to be completed, it is y to specify which one should be completed first. The supervisor is an important part of the PQS program if it is to be successful. If you PQS with insight, you will find that PQS is a helpful tool that can your overall training plan. You will be responsible for the accuracy and tailoring of PQS to fit your command's needs, as well as for the of appropriate feedback to the PQS Development Group (feedback forms in the back of each Standard booklet). You should provide motivatio personnel by assigning goals, showing interest, and following the tr progress. The supervisor is responsible for training and should be to update and maintain the progress chart. It is important that the be aware of who is and who is not progressing, as well as where coun individual instruction may be needed. A sample PQS progress chart c in the PQS Manager's Guide (NAVEDTRA 43100-1B). As a supervisor you totally familiar with the duties, responsibilities, and assignments Qualification Petty Officers. Your PQS program cannot survive witho planning and quality control.

B. The estimated completion time, shown at the beginning of ea Watchstation/Workstation, is only a recommendation and may be modifi command. It indicates how long it will take the average sailor unde conditions to complete each Watchstation/Workstation.

VI. THE QUALIFICATION PETTY OFFICER

A. Selection as a Qualification Petty Officer means that you a of the command's subject matter experts on those Fundamentals, Syste Watchstations/Workstations assigned to you. PQS cannot be successfu you. Your job is to be totally knowledgeable in your assigned areas yourself available to check off your trainees' achievements, and to that a high-quality PQS program is maintained in your division.

B. Each Qualification Petty Officer should have a set of stand for the Watchstations/Workstations so that all trainees receive the If multiple signatures are required for a line item, it is preferabl working day or one watch elapse between signatures. If the trainee know the correct answer, it is your responsibility to help find the in the reference material. This will speed up the process of qualif and will familiarize your trainees with the use of publications. Ob

DEFINITIONS OF WORDS USED IN TQS

AIRCREW EVOLUTION - A grouping of aircrew tasks that measure performa in the course of a flight

COMPONENTS - Major units that make up a system when properly connecte

COMPONENT PART - A major part of a component

CONTROL SIGNAL - A signal used to control electronic or mechanical de

EMERGENCY - An event or series of events in progress that will cause to equipment or personnel unless immediate corrective steps are taken

FUNDAMENTALS - Basic facts, theories, laws or principles (100 Section

INTERLOCK - A protective device to prevent the unsafe operation of eq or to sequence the action of systems, components or component parts

MAINTENANCE ACTION - A maintenance technician qualification that meas ability to perform a designated task

MAINTENANCE OPERATION - A qualification that measures the ability to tasks (using established procedures) to determine the need for mainte

NORMAL OPERATING VALUE - The point at which satisfactory performance be expected

PARAMETER - A variable (temperature, pressure, flow rate, voltage, cu frequency etc.) that must be indicated, monitored, checked or sensed operation or testing

PROTECTIVE FEATURE - A device designed to prevent damage or injury

SENSING POINT - The point in a system at which a signal may be detect

SETPOINT - The value of a parameter at which: (a) an alarm is set of (b) operator action is required, (c) valves open or shut, (d) proper operation stops and damage may occur, or (e) the optimum value for no operation

SUPPORT ACTION - A qualification that measures the ability to perform or repetitive tasks that do not involve the correction of a malfuncti repair of equipment

SYSTEMS - Groups of components that operate together to perform speci

CONTRIBUTING FLEET PERSONNEL

The following personnel, under the supervision of the PQS Development Grou made a significant contribution to the development of this PQS for CV Antisubmarine Warfare Module (ASWM) Automatic Data Processing (ADP) (Qual 2A):

DPC	W. D. OLIVER	FCTCLANT, Dam Neck, VA
DP1	J. LIEBERMAN	USS RANGER (CV-61)
DP3	M. J. PALCZEWSKI	USS FORRESTAL (CV-59)

ENLISTED SURFACE WARFARE SPECIALIST (ESWS)
PQS CROSS-REFERENCE

Upon completion of this PQS, the requirements for the following line i
from the ESWS PQS (NAVEDTRA 43390, Oct 1979) will be satisfied:

96, 97, 106, 113, 114

2101	Security	
2102	Automatic Data Processing (ADP) Terminology	
2103	Automatic Data Processing (ADP) Communications	
2104	Antisubmarine Warfare Module (ASWM) System Interface	
2105	Naval Tactical Data System (NTDS) Interface	
2106	Automatic Data Processing (ADP) Mission Support Functions	
2107	Automatic Data Processing (ADP) Symbology	
2108	Tactical Display Console Mission Support Functions	
2109	Automatic Data Processing (ADP) Tape Management	
2110	Antisubmarine Warfare Module (ASWM) System Problem Isolation	
2111	Automatic Data Processing (ADP) Administration	
2112	Safety Precautions	

SYSTEMS

2201	Digital Computer (AN/UYK-7) (Basic)	
2202	Recorder/Reproducer (RD-448 AN/UYH-3(V)) (Basic)	
2203	Recorder/Reproducer Disk Storage Unit (RD-281(V)/UYK) (Basic)	

SYSTEMS (CONT'D)

		SIGNATURE
2207	Digital Magnetic Tape (DMT) (RD-348/ASH) (Basic)	
2208	Fast/Slow Interface Adapter (FSIA) (Basic)	
2209	Teletypewriter Set (OJ-212(V)/UYK) (UGC-13 MOD) (Basic)	
2210	Minicomputer (AN/UYK-20(V)) Control Unit (Basic)	
2211	Display Generator Unit (DGU) (Basic)	
2212	AN/SSQ-78 Tactical/Tabular Display Consoles (Basic)	
2213	1100A Hard Copy Unit	
2214	Audio Switching Matrix (ASM) (SA-2033/SYQ) (Basic)	
2215	Digital Television Projection Unit (DTVPU) (IP-1231/S) (Advanced)	
2216	Digital Computer (AN/UYK-7) (Advanced)	
2217	Recorder/Reproducer (RD-448 AN/UYH-3(V)) (Advanced)	
2218	Recorder/Reproducer Disk Storage Unit (RD-281(V)/UYK) (Advanced)	
2219	1532 Input/Output Console (Advanced)	
2220	1840M Magnetic Tape (RD-358(V)/UYK) (Advanced)	

SYSTEMS (CONT'D)

SIGNATURE

2225	Minicomputer (AN/UYK-20(V)) Control Unit (Advanced)	
2226	Display Generator Unit (DGU) (Advanced)	
2227	AN/SSQ-78 Tactical/Tabular Display Consoles (Advanced)	
2228	Audio Switching Matrix (ASM) (SA-2033/SYQ) (Advanced)	

References:

a. Department of the Navy Information Security Program Regulation (Security Manual) (OPNAVINST 5510.1)
b. Department of Defense Information Security Program Regulations (DODINST 5200.1)
c. Naval Orientation (NAVEDTRA 10900)
d. Data Processing Technician 3 & 2 (NAVEDTRA 10264)

.1 Define the following terms:

a. Clearance
b. Access
c. Need-to-know
d. Compromise
e. Disclosure
f. Foreign national
g. Personal censorship

.2 Describe the action required upon discovery of a compromise for the following situations:

a. Loss of classified material
b. Verbal/written disclosure of classified material
c. Physical access

.3 Describe in detail the following compromise situations:

a. Loss of classified material
b. Verbal/written disclosure of classified material
c. Physical access

.4 State examples of the following which might lead to voluntary/invo compromise:

a. Sexual behavior
b. Ideological beliefs
c. Subversion/coercion
d. Judicial proceeding
e. Alcohol/drug abuse

.5 Briefly explain disciplinary actions for security violations.

.7 Define the following terms as applied to automatic data processi (ADP) security:

a. Custody
b. Stowage
c. Accountability
d. Dissemination
e. Transmission
f. Destruction
g. Restricted access area

.8 Describe the physical security program at your activity and sta its purpose.

.9 Define the three categories of classification.

.10 From information or material assigned to the CV Antisubmarine W Module (ASWM), give examples of the three categories of classif

.11 Explain the purpose and use of the following:

a. Handling instructions
b. Distribution instructions
c. Special markings
d. Downgrading instructions

.12 Discuss the purpose of a National Agency Check (NAC) and Backgr Investigation (BI).

.13 Discuss the types of investigation required for the following c

a. Top Secret
b. Secret
c. Confidential

.14 Describe the security marking required for magnetic tape record

.15 Discuss the requirements regarding routine/emergency destructio

.16 Discuss the security points system as applied to safes, lockers and other containers in types of buildings and ships (while unde and in port).

References:

a. Data Processing Technician 3 & 2 (NAVEDTRA 10264)
b. Data Processing Technician 1 & C (NAVEDTRA 10265)
c. Organizational ASWM Operator Manual (NAVAIR 16-45-1980-1)

.1 Explain the following terms and acronyms, including an example of their usage in data processing:

a. System initialization
b. Re-init
c. Boot
d. Re-boot
e. Bootstrap
f. Physical unit
g. Logical unit
h. Sector
i. Cylinder
j. Address
k. Tac
l. Tab
m. Software
n. Hardware
o. Firmware
p. Core dump
q. Hard copy
r. Event
s. Sortie
t. Launch cycle
u. Flight plan
v. Squadron flight plan
w. Utility activation
x. BOT
y. EOT
z. EOF
aa. EOM
ab. IFPM
ac. FSIA
ad. DMTU
ae. DMTC
af. DGU
ag. DLRP
ah. ASAC
ai. UYH-3
aj. TTC
ak. SCU
al. MTU
am. DSU
an. ESM
ao. Data reduction
ap. ICS
aq. NTDS
ar. ASM
as. PDIP
at. CIC
au. HSP
av. CVIC
aw. TACCO
ax. SENSO
ay. S-3A
az. SH-3
ba. RO-280
bb. OA-7984
bc. DTVPU
bd. RD-281
be. RD-448
bf. RD-348/ASH
bg. RD-358
bh. 1840M
bi. UGC-13 MOD
bj. OJ-212
bk. 1532
bl. RAINFORM
bm. MTT

2103 AUTOMATIC DATA PROCESSING (ADP) COMMUNICATIONS FUNDAMENTALS

References:

a. Operations Specialist 3 & 2 Vol. 1 (NAVEDTRA 10145)
b. Basic Military Requirements (NAVEDTRA 10054)

.1 Discuss sound-powered multichannel (MC) circuits available the antisubmarine warfare module (ASWM).

.2 Describe the functions and applications of the following:

a. Handset
b. Headset
c. MC system
d. Jackbox
e. Intercommunications system (ICS)

2104 ANTISUBMARINE WARFARE MODULE (ASWM) SYSTEM INTERFACE FUNDAMENTALS 2

Reference:

a. Organizational ASWM Operator Manual (NAVAIR 16-45-1980-1)

.1 Describe the equipment interfaces contained in the ASWM.

.2 Describe the interfaces of ASWM subsystems.

.3 Describe one-way/two-way data flow within the ASWM system.

2105 NAVAL TACTICAL DATA SYSTEM (NTDS) INTERFACE FUNDAMENTALS

Reference:

a. Organizational ASWM Operator Manual (NAVAIR 16-45-1980-1)

.1 Describe the actions which must be taken by combat information center (CIC) and antisubmarine warfare module (ASWM) to activa the NTDS/ASWM interface.

.2 Explain the purpose of 1532 input/output console NTDS/ASWM interface messages.

.3 Explain the purpose of the NTDS universal test message 1 and N universal test message 2.

Reference:

a. Organizational ASWM Operator Manual (NAVAIR 16-45-1980-1)

.1 Describe the steps used in initializing the antisubmarine warfare module (ASWM) system.

.2 Describe how the disk file backup utility program is used in prov data base support in accordance with local standard operating pro (SOPs).

.3 Identify and explain how display console keys are used in manipul index files.

.4 Define the file names contained on a disk file backup utility lis

.5 List the files contained on a data base save tape.

.6 Identify and describe the utility programs used to provide prefli support in accordance with local SOPs.

.7 Identify and describe the utility programs used to provide postfl support in accordance with local SOPs.

2107 AUTOMATIC DATA PROCESSING (ADP) SYMBOLOGY FUNDAMENT

References:

a. Data Processing Technician 3 & 2 (NAVEDTRA 102
b. Organizational ASWM Operator Manual, Volume 3(
Supplement

.1 Identify and explain ADP flow chart symbols.

.2 Identify and explain the antisubmarine warfare sym
antisubmarine warfare module (ASWM) data processin

TACTICAL DISPLAY CONSOLE MISSION SUPPORT FUNCTIONS FUNDAMENTALS

Reference:

a. Organizational ASWM Operator Manual (NAVAIR 16-45-1980-1)

.1 Describe the activation, termination and cuing sequence of those functions used by analysis personnel in providing preflight, postflight and in-flight mission support to fixed-winged anti-submarine (VS) and helicopter antisubmarine (HS) squadrons.

a. Organizational ASWM Operator Manual (NAVAIR 16-45-1980-1)

.1 Describe the purpose of the following system tapes:

a. Load
b. Rapid restart
c. Patch
d. Errata
e. Core dump
f. Baseline save
g. S3 programs
h. Save
i. Mission data
j. DSCP
k. UYK-7 degraded
l. UYK-20 degraded
m. Local tapes

.2 Describe the procedures for the following as applied to maintai
a local tape library:

a. Replacing beginning-of-tape (BOT)/end-of-tape (EOT) markers
b. Degaussing/certifying tapes
c. Storing tape
d. Rotating tape
e. Handling/shipping tape

.3 Describe the local Standard Operating Procedures (SOPs) that app
to your tape library.

.4 Describe the procedures used in creating a rapid-restart tape.

2110 ANTISUBMARINE WARFARE MODULE (ASWM) SYSTEM PROBLEM ISOLATION FUNDAMENTALS

Reference:

a. Organizational ASWM Operator Manual (NAVAIR 16-45-1980-1)

.1 Explain the following acronyms:

a. EFA
b. EIE
c. EFR
d. EIR
e. IDA
f. IDR
g. ODA
h. ODR

.2 Describe the difference between data lines and command lines.

.3 Discuss the equipment interfaces as applied to command signals data lines.

.4 Describe the data flow between ASWM equipment as applied to ea of the ASWM operator.

.5 Describe the procedure used to monitor AN/UYK-7 channel activi

.6 Describe the effect of the loss of each piece of ASWM equipmer on the module's mission.

.7 Describe the options available to the operator to allow contir system operations with the degradation of each piece of ASWM e

.8 Describe the local standard operating procedures (SOPs) for re reported tape transport cartridge (TTC) problems.

.9 Describe the procedures for performing offline operations on t ASWM equipment:

a. RD-348
b. RD-281 (if applicable)
c. RO-280
d. Display generating unit (DGU)
e. 1840M
f. AN/UYK-7

2111 AUTOMATIC DATA PROCESSING (ADP) ADMINISTRATION FUNDAMENTALS

Reference:

a. Local Standard Operating Procedures (SOPs)

.1 Describe local standard operating procedures (SOPs) for ma
ADP logs.

.2 Describe local SOPs for completing ADP required reports.

2112 SAFETY PRECAUTIONS FUNDAMENTALS

References:

a. Data Processing Technician 3 & 2 (NAVEDTRA 10264)
b. Accident Prevention Manual (OPNAVINST 5101.2)
c. Navy Safety Precautions for Forces Afloat (OPNAVINST 510
d. Standard Organization and Regulations of the U.S. Navy, Sec 630.17 (OPNAVINST 3120.32)

.1 Explain the intended use of interlocks installed inside/outs electrical equipment.

.2 Explain the use and meaning of danger tags, and the hazards with improper/unauthorized operation of tagged equipment.

.3 Explain the requirements for grounding portable and nonporta tools and equipment.

.4 Describe the procedures for using cleaning solvents on equip

.5 Describe the procedures for combating an electrical fire and ventilation.

.6 Name the extinguishing agents used to combat electrical fire discuss their applications.

.7 State the location of main power switches for all equipment the antisubmarine warfare module (ASWM).

.8 State the location of firefighting equipment in your spaces.

.9 Explain the procedures for removing a victim of electrical s energized equipment.

.10 Explain the proper treatment for electrical shock.

.11 Explain the procedure for treating burns and wounds.

.12 Explain the procedure for neutralizing and removing acid fro and eyes.

.13 Describe the proper resuscitation procedures.

.14 State the locations of the nearest first-aid boxes and stati

2201 DIGITAL COMPUTER (AN/UYK-7) (BASIC) SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2201.1 What is the function of this system?

.11 Refer to a standard print of this system or to the actual equi

2201.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and
parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the modes of operation or control?
E. What are the probable indications if this component fails?
F. What are the positions and functions of each position?

	A	B	C	D
.21 Hardware modules (14)	X	X		
a. Input/output controller (IOC)	X	X		
b. Power supply units (2)	X	X		
c. Central processor unit	X	X		
d. Memory units (6)	X	X		
e. Input/output adapter	X	X		
f. Dummy units (3)	X	X		
.22 Operator panels (2)	X	X		
a. Circuit breaker toggle switch	X	X	X	
b. Blower power toggle switch	X	X	X	
c. Blower power indicator	X	X		
d. Computer power toggle switch	X	X	X	
e. Computer power indicator	X	X		
f. Logic power indicators (6)	X	X		
g. Run indicator	X	X		
h. Start toggle switch	X	X		
i. Master clear (MC) switch	X	X		
j. Stop toggle switch	X	X		
k. Bootstrap toggle switches (2)	X	X		X
l. Auto-start toggle switch	X	X		
m. Real-time clock (RTC) toggle switch	X	X		
n. 4-stop indicator	X	X		
o. Local indicator	X	X		

2201.2 SYSTEM COMPONENTS AND COMPONENT PARTS (CONT'D)

		A	B	C	D
c.	Online indicator	X	X		
d.	Run indicator	X	X		
e.	Fault indicators (3)	X	X		
f.	Indicator test pushbutton	X	X		
.24	MCP IOC section	X	X		
a.	Monitor/chain pushbutton indicator	X	X		
b.	IOC dual-purpose pushbutton/indicators (18)	X	X		
c.	IOC data interface register upper (DIRU) push-button/indicator	X	X		
d.	IOC data interface register lower (DIRL) push-button/indicator	X	X		
e.	Select 2 pushbutton/indicator	X	X		
f.	Command address register (CAR) pushbutton/ indicator	X	X		
g.	Clear pushbutton/indicators (2)	X	X		
h.	Require store (REQ STORE) pushbutton/indicator	X	X		
i.	IOC mode pushbutton/indicators (3)	X	X		X
j.	IOC RTC/disconnect toggle switch	X	X		
k.	IOC low-speed oscillator (LSO) toggle switch	X	X		
l.	Input/output clear (I/O clear) toggle switch	X	X		
.25	MCP central processing unit (CPU) section	X	X		
a.	Main timing indicators (3)	X	X		
b.	Breakpoint toggle switch	X	X		
c.	Breakpoint indicator	X	X		
d.	Disconnect/test toggle switches (3)	X	X		
e.	Bootstrap toggle switch	X	X		
f.	Automatic recovery/manual toggle switch	X	X		
g.	Jump toggle switches (3)	X	X		
h.	Stop toggle switches (3)	X	X		
i.	Stop indicators (4)	X	X		
j.	CPU mode pushbutton/indicators (4)	X	X		X
k.	LSO control potentiometer	X	X		
l.	CPU LSO/start toggle switch	X	X		
m.	MC switch	X	X		

2201.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's fu

.32 What indications will you receive if the system is malfunctio

2201.4 PARAMETERS - None to be discussed.

2201.6 SAFETY PRECAUTIONS

.61 What general safety precautions apply to this system?

2202.1 What is the function of this system?

.11 Refer to the actual equipment.

2202.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components
parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this compo
part?
F. What are the probable indications if this component f
G. What are the positions and functions of each positior
H. What are the interlocks?

		A	B
.21	Operator panels (2)	X	X
	a. Main power toggle switch	X	X
	b. Battle short toggle switch	X	X
	c. Main power indicator	X	X
	d. Battle short indicator	X	X
	e. Temperature fault indicator	X	X
	f. Spindle motor toggle switch	X	X
	g. Logic unit indicators (4)	X	X
	h. Ready indicator	X	X
	i. Fault indicator	X	X
	j. Write protect indicator	X	X
	k. Voltage fault indicator	X	X
	l. Controller status indicator	X	X
.22	Disk status panels (2)	X	X
	a. Write protect toggle switch	X	X
	b. 3100 RPM indicator	X	X
	c. Temperature fault indicator	X	X
	d. Cover lock indicator	X	X
.23	Mode maintenance panels (2)	X	X
	a. Mode select rotary switch	X	X
	b. Sector select rotary switch	X	X
	c. Write protect toggle switch	X	X
.24	Power supply panels (2)	X	X
	a. Main power circuit breaker	X	X
.25	Disk drive motor drive unit	X	X

2202.4 PARAMETERS - None to be discussed.

2202.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this system:

a. Loss of electrical power
b. Loss of air-conditioning
c. High humidity

.52 How does this system interface with the following:

a. Digital Computer AN/UYK-7 System
b. Display subsystem equipment

2202.6 SAFETY PRECAUTIONS

.61 What general safety precautions apply to this system?

2203 RECORDER/REPRODUCER DISK STORAGE UNIT (RD-281(V)/UYK) (BASIC) SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2203.1 What is the function of this system?

.11 Refer to the actual equipment.

2203.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this compo part?
F. What are the positions and functions of each positio
G. What are the interlocks?

		A	B
.21	Disk operator panel	X	X
	a. File protect key switch	X	X
	b. Mode control rotary switch	X	X
	c. Data control select rotary switch/indicators (12)	X	X
	d. Status indicators (6)	X	X
	e. Interrupt indicators (12)	X	X
	f. Sector size rotary switch	X	X
	g. Word size rotary switch	X	X
	h. Access control select rotary switch/indicators (12)	X	X
	i. Reset pushbutton	X	X
	j. Start pushbutton	X	X
.22	Disk transport drawer	X	X
.23	Disk power control panel	X	X
	a. Power indicator fuse	X	X
	b. Power on indicator	X	X
	c. Interrupt status indicator	X	X
	d. Main power circuit breaker	X	X
	e. Convenience outlets circuit breaker	X	X
	f. Spare fuse	X	X

203.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's functi

.32 What is the sequence of component involvement to accomplish mounti of a disk pack?

.33 What indications will you receive if the system is malfunctioning?

203.4 PARAMETERS - None to be discussed.

203.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this system:

a. Loss of electrical power
b. Loss of (AN/UYK-7) Digital Computer System
c. Loss of air-conditioning
d. High humidity

203.6 SAFETY PRECAUTIONS

.61 What general safety precautions apply to this system?

2204 1532 INPUT/OUTPUT CONSOLE (BASIC) SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2204.1 What is the function of this system?

.11 Refer to the actual equipment.

2204.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components a
parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the probable indications if this component fai

		A	B	C
.21	OA-7984/UYK(V) power panel	X	X	
	a. Perforator tape low indicator	X	X	
	b. Logic indicator	X	X	
	c. Blowers indicator	X	X	
	d. Off/on toggle switch	X	X	X
	e. Overtemperature indicator	X	X	
	f. Alarm bypass/normal toggle switch	X	X	
.22	OA-7984/UYK(V) control panel	X	X	
	a. Keyboard pushbutton indicator (PBI)	X	X	
	b. Print PBI	X	X	
	c. Clear pushbuttons (6)	X	X	
	d. Offline/online toggle switch	X	X	
	e. Interrupt (INT) PBI	X	X	
.23	Alphanumeric keyboard	X	X	X
.24	Print unit	X	X	X

2204.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's

.32 What indications will you receive if the following equipmen
malfunctioning:

a. Print unit
b. Keyboard

6 SAFETY PRECAUTIONS

61 What general safety precautions apply to this system?

2205 1840M MAGNETIC TAPE (RD-358(V)/UYK) (BASIC) SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2205.1 What is the function of this system?

.11 Refer to the actual equipment.

2205.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following componer
parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this co
part?
F. What protection is provided by this component/compo
G. What are the positions and functions of each positi

		A
.21	Magnetic tape system control panel (SCP)	X
	a. 20-ampere circuit breaker	X
	b. Power on/off toggle switch	X
	c. Power indicator	X
	d. Overtemperature alarm toggle switch	X
	e. Overtemperature indicator	X
	f. Program mode rotary switch	X
.22	SCP magnetic tape unit (MTU) control sections (4)	X
	a. Power on indicator	X
	b. Manual/automatic (MAN/AUTO) rotary switch	X
	c. Select pushbutton indicator (PBI)	X
	d. Ready indicator	X
	e. Write enable PBI	X
	f. Load PBI	X
	g. Stop load pushbutton	X
	h. Unload PBI	X
	i. Address rotary switch	X
	j. Beginning-of-tape indicator	X
	k. End-of-tape PBI	X

		A	B	C
.24	Magnetic tape system maintenance panel	X	X	
	a. Online/offline toggle switch	X	X	
	b. Computer A/computer B in control PBIs (2)	X	X	
	c. Computer A/computer B external interrupt request PBI (2)	X	X	
	d. Duplex request PBIs (2)	X	X	
	e. Duplex release PBIs (2)	X	X	
	f. Operation step toggle switch	X	X	
	g. Simulate external function toggle switch	X	X	
	h. Clock toggle switch	X	X	
	i. Master clear (MC) toggle switch	X	X	
	j. Display act/inact toggle switch	X	X	
	k. Run/stop/1 step toggle switch	X	X	
	l. Phase encoded/nonreturn to zero inverted (PE/NRZI) PBIs (4)	X	X	
	m. Tape transport start/stop toggle switches (4)	X	X	
	n. Tape drive (TD) test toggle switch	X	X	
.25	MTT power supply drawer circuit breakers (5)	X	X	X

2205.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's

.32 What is the sequence of component involvement to accomplish tape readiness?

.33 What indications will you receive if the system is malfunct

2205.4 PARAMETERS - None to be discussed.

2205.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this system

a. Loss of electrical power
b. Loss of air-conditioning
c. Loss of Minicomputer (AN/UYK-20 (V)) Control Unit Syst
d. Loss of Digital Computer (AN/UYK-7) System
e. High humidity

.52 How does this system interface with the following:

a. Minicomputer (AN/UYK-20 (V) Control Unit System
b. Digital Computer (AN/UYK-7) System

2206 HIGH-SPEED PRINTER (HSP) (RO-280/UYK) (BASIC) SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2206.1 What is the function of this system?

.11 Refer to a standard print of this system or to the actua

2206.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following component parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this comp part?
F. What are the probable indications if this component
G. What are the positions and functions of each positio
H. What are the interlocks?

		A
.21	HSP operator panel	X
	a. Power on indicator	X
	b. Power on toggle switch	X
	c. Interlock override indicator	X
	d. Interlock override pushbutton	X
	e. Offline indicator	X
	f. Offline pushbutton	X
	g. Top of form pushbutton	X
	h. Paper slew pushbutton	X
	i. Paper step pushbutton	X
	j. Hammer interlock indicator	X
	k. Paper fault indicator	X
	l. Printer fault indicator	X
	m. Paper copies rotary switch	X
	n. Magnetic tape unit (MTU) on toggle switch	X
	o. MTU fault indicator	X

2206.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's funct

.32 What indications will you receive if the system is malfunctioning

2206.4 PARAMETERS - None to be discussed.

2206.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this system:

a. Loss of electrical power
b. Loss of Digital Computer (AN/UYK-7) System

2206.6 SAFETY PRECAUTIONS

.61 What general safety precautions apply to this system?

Reference:

a. NAVAIR 16-45-1980-1

2207.1 What is the function of this system?

.11 Refer to the actual equipment.

2207.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following compone parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the safety/protective devices for this co part?

.21 Digital magnetic tape control (DMTC) power supply panels (2)
- a. Blower power circuit breaker
- b. Main power circuit breaker
- c. Digital magnetic tape unit (DMTU 1) power on pushbutton indicator (PBI)
- d. DMTU 2 power on PBI
- e. DMTC power on PBI
- f. Battle short toggle switch

.22 DMT subsystem control panels (2)
- a. Memory protect toggle switch
- b. Overridden/protect toggle switch (locking)
- c. Byte PBIs (2)
- d. Online/offline PBI
- e. Auto/manual PBI
- f. Lamp test PBI
- g. Master clear PBI
- h. Computer input word indicators (32)
- i. Computer output word indicators (32)
- j. Clear computer output
- k. Transfer command indicators (5)
- l. DMTU status monitor indicators (13)
- m. Memory protect indicators (2)
- n. Transfer command pushbutton/indicators (3)

2207.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's func

.32 What is the sequence of component involvement to accomplish off-operations?

.33 What indications will you receive if the system is malfunctionin

2207.4 PARAMETERS - None to be discussed.

2207.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this system:

a. Loss of electrical power
b. Loss of Digital Computer (AN/UYK-7) System
c. Loss of display subsystem
d. High humidity

.52 How does this system interface with the following:

a. Display subsystem
b. Automatic data processing (ADP) subsystem

2207.6 SAFETY PRECAUTIONS

.61 What general safety precautions apply to this system?

Reference:

a. NAVAIR 16-45-1980-1

2208.1 What is the function of this system?

.11 Refer to the actual equipment.

2208.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and com
parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the safety/protective devices for this component/com
part?
E. What protection is provided by this component/component part?
F. What are the probable indications if this component fails?

	A	B	C	D	E	F
.21 Fast/slow (F/S) adapter power supply panel	X	X	X	X		X
a. Blower power circuit breaker	X	X	X		X	X
b. Primary power circuit breaker	X	X	X		X	X
c. Battle short switch	X	X				X
d. Primary power indicators (5)	X	X				
e. Fuses (8) (F1 thru F8)	X					
.22 Digital magnetic tape (DMT) F/S interface adapter blower panel	X	X		X		
a. Circuit breaker	X	X	X			
b. DS1 indicator	X	X				
c. Fuses (8)	X	X				

2208.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's funct

.32 What indications will you receive if the system is malfunctioning

2208.4 PARAMETERS - None to be discussed.

2208.5 SYSTEM INTERFACE

2209 TELETYPEWRITER SET (OJ-111(V)/UYK) [illegible] SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2209.1 What is the function of this system?

.11 Refer to the actual equipment.

2209.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the safety/protective devices for this component/part?
E. What protection is provided by this component/component p
F. What are the probable indications if this component fails

	A	B	C	D
.21 Adapter maintenance panel	X	X	X	X
a. Overtemperature indicator	X	X		
b. Margin check indicator	X	X		
c. 400-cycle on indicator	X	X		
d. Fuse/indicators (3)	X	X		
e. Main power switch	X	X	X	
f. Operate/test switch	X	X		
g. Master clear (MC) pushbutton	X	X		
.22 Adapter control panel	X	X		
a. Motor enable pushbutton indicator (PBI)	X	X		
b. Computer request indicator	X	X		
.23 Auxiliary reperforator control panel	X	X		
a. Auxiliary motor switch	X	X		
b. Reperforator tape feed pushbutton switch	X	X		
c. Line/test toggle switch	X	X		
d. Online/offline toggle switch	X	X		
.24 Maintenance/operate toggle switch	X	X		
.25 Keyboard on/off toggle switch	X	X		

2209.3 PRINCIPLES OF OPERATION

2209.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this system:

a. Loss of electrical power
b. Loss of Fast/Slow Interface Adapter (FSIA) System

.52 How does this system interface with the display consoles (6)?

2209.6 SAFETY PRECAUTIONS

.61 What general safety precautions apply to this system?

Reference:

a. NAVAIR 16-45-1980-1

2210.1 What is the function of this system?

.11 Refer to the actual equipment.

2210.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and co
parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the safety/protective devices for this component/co
part?
E. What protection is provided by this component/component part

	A	B	C	D	E
.21 Control panel	X	X		X	
a. Blower power toggle switch	X	X			
b. Logic power toggle switch	X	X			
c. Blower power indicator	X	X			
d. Logic power indicator	X	X			
e. Clear (CLR) toggle switches (2)	X	X			
f. Power fault indicator	X	X			
g. Program fault indicator	X	X			
h. Program run indicator	X	X			
i. Overtemperature indicator	X	X			
j. Load/stop toggle switch	X	X			
k. Bootstrap toggle switch	X	X			
l. Circuit breaker toggle switch	X	X	X		X
m. Battle short indicator	X	X			
n. Battle short toggle switch	X	X			
o. Alarm toggle switch	X	X			
.22 Maintenance control panel (MCP)	X	X			
a. Program run pushbutton/indicator	X	X			
b. Fault pushbutton/indicators (2)	X	X			
c. Program stop toggle switches (2)	X	X			
d. Register data pushbutton/indicators (16)	X	X			
e. Register data set/clear pushbutton	X	X			
f. Alter mode toggle switch	X	X			

2210.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system'

.32 What is the sequence of component involvement to accomplis

a. Clearing the core?
b. Program loading?

.33 What indications will you receive if the system is malfunc

2210.4 PARAMETERS - None to be discussed.

2210.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this system

a. Loss of Digital computer (AN/UYK-7) System
b. Loss of air-conditioning
c. Loss of electrical power
d. Loss of display generator Unit (DGU) System

.52 How does this system interface with the following:

a. Digital Computer (AN/UYK-7) System
b. Display Generator Unit (DGU) System

2210.6 SAFETY PRECAUTIONS

.61 What general safety precautions apply to this system?

2211.1 What is the function of this system?

.11 Refer to a standard print of this system or to the actual equip

2211.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and c
parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/c
part?
F. What protection is provided by this component/component par
G. What are the probable indications if this component fails?
H. What are the positions and functions of each position?

	A	B	C	D	E
.21 DGU power panels (2)	X	X			X
a. Main power circuit breaker	X	X	X		
b. Test video select rotary switch	X	X			
c. Mode select rotary switch	X	X		X	
d. Enter mode/reset pushbutton	X	X			
e. External function request (EFR) indicator	X	X			
f. Output data request (ODR) indicator	X	X			
g. Temperature excess indicator	X	X			
h. Temperature unsafe indicator	X	X			
i. Water pressure loss indicator	X	X			
j. Water leak detect indicator	X	X			
k. Battle short indicator	X	X			
l. Battle short switch	X	X			
m. Power on indicator	X	X			
n. Auxiliary power/fault switch	X	X			
.22 DGU maintenance panel	X	X			
a. Normal operate switch	X	X			
b. Single-step operate pushbutton	X	X			
c. Lamp test pushbutton	X	X			
d. Force stick sensitivity rotary switch	X	X			
e. ON/OFF switch	X	X			
f. Tactical/tabular switch	X	X			
g. Test mode indicators (2)	X	X			
h. Test point No. 8	X	X			
i. Chill water valves (4)	X	X			

2211.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system'

.32 What indications will you receive if the system is malfunc

2211.4 PARAMETERS

For the items listed answer the following questions:

A. What are the normal operating values and tolerances?

.41 Chilled water flow rate
.42 Chilled water temperature

2211.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this syste

a. Loss of electrical power
b. Loss of chilled water
c. Loss of AN/UYK-20(V) minicomputer

.52 How does this system interface with the following:

a. Digital Computer (AN/UYK-7(V)) System
b. Tactical/tabular display consoles
c. 1100A Hard Copy Unit System

2211.6 SAFETY PRECAUTIONS

.61 What general safety precautions apply to this system?

Reference:

a. NAVAIR 16-45-1980-1

2212.1 What is the function of this system?

.11 Refer to the actual equipment.

2212.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and com
parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the modes of operation or control?
E. What are the positions and functions of each position?

		A	B	C	D	E
.21	Display unit control panels (12)	X	X			
	a. Channel select toggle switch	X	X			
	b. Battle short toggle switch	X	X			
	c. Brightness potentiometer	X	X			
	d. Channel switch/potentiometer controls (2)	X	X			
	e. Power on/off toggle switch	X	X	X		
	f. Mode toggle switch	X	X		X	
	g. Battle short/overheat/power on indicator group	X	X			
.22	Intercommunications system (ICS) terminal control panel	X	X			
	a. Channel volume potentiometer group	X	X			
	b. Channel select rotary switch	X	X			
	c. Public announcement (PA) select rotary switch	X	X			X
	d. PA volume potentiometer	X	X			
	e. Speaker mute rotary switch	X	X			X
	f. Speaker volume potentiometer	X	X			
	g. Handset/headset connector	X	X			
.23	Console bullnose power panel	X	X			
	a. Power indicator	X	X			
	b. Battle short indicator	X	X			
	c. Battle short toggle switch	X	X			
	d. Overheat indicator	X	X			
	e. Power toggle switch	X	X	X		
	f. Test pushbutton	X	X			

2212.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the sys

.32 What indications will you receive if the system is mal

2212.4 PARAMETERS - None to be discussed.

2212.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this sy

a. Loss of electrical power
b. Loss of Display Generator Unit (DGU) System

.52 How does this system interface with the following:

a. Display Generator Unit (DGU) System
b. System control unit
c. Audio switch matrix unit

2212.6 SAFETY PRECAUTIONS

.61 What general safety precautions apply to this system?

Reference:

a. NAVAIR 16-45-1980-1, Vol 1

2213.1 What is the function of this system?

.11 Refer to the actual equipment.

2213.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and comp parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the positions and functions of each position?
E. What are the probable indications if this component fails?
F. What are the interlocks?

		A	B	C	D	E	F
.21	Power switch	X	X	X	X		X
.22	Advance pushbutton/indicator switch	X	X				
.23	Form feed pushbutton/indicator switch	X	X				
.24	Paper indicator	X	X			X	
.25	Roll/fanfold switch	X	X		X		
.26	Reset pushbutton	X	X				

2213.3 PRINCIPLES OF OPERATION - None to be discussed.

2213.4 PARAMETERS - None to be discussed.

2213.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this system:

a. Loss of electrical power
b. Loss of Display Generator Unit (DGU) System
c. Loss of minicomputer (AN/UYK-20(V))
d. Loss of Digital Computer (AN/UYK-7) System

.52 How does this system interface with the automatic data processing (ADP) display console (station 6)?

Reference:

a. NAVAIR 16-45-1980-1

2214.1 What is the function of this system?

.11 Refer to the actual equipment.

2214.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this compon part?
F. What protection is provided by this component/componen
G. What are the probable indications if this component fa

		A	B
.21	Power supply panel	X	X
	a. Power supply circuit breakers (4)	X	X
	b. Power supply indicators (4)	X	X
.22	Cabinet blower panel circuit breaker	X	X
.23	Control panel	X	X
	a. Power on/off switch	X	X
	b. Auxiliary input enable switch	X	X
	c. Mode selector switch	X	X
.24	Cabinet blower panel fuses (F1 thru F8)	X	X
.25	Headset connector	X	X

2214.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's

.32 What indications will you receive if the system is malfunct

2214.4 PARAMETERS - None to be discussed.

2214.5 SYSTEM INTERFACE

a. NAVAIR 16-45-1980-1

2215.1 What is the function of this system?

.11 Refer to the actual equipment.

2215.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and co
parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/co
part?

	A	B	C	D	E
.21 Control panel (local)	X	X			X
a. Mode select toggle switch	X	X		X	
b. Control toggle switch	X	X			
c. Focus potentiometer	X	X			
d. Bright potentiometer	X	X			
e. Horizontal centering potentiometer	X	X			
f. Horizontal gain potentiometer	X	X			
g. Vertical centering potentiometer	X	X			
h. Vertical gain potentiometer	X	X			
i. Power indicator	X	X			
j. Power on/off toggle switch	X	X	X		
k. Channel 1 switches (5)	X	X			
l. Channel 2 switches (5)	X	X			
m. Channel select switch	X	X			
.22 Control panel (remote)	X	X			
a. Mode rotary switch	X	X		X	
b. Focus potentiometer	X	X			
c. Video invert switch	X	X			
d. Channel select switch	X	X			
e. Aspect ratio switches (2)	X	X			
f. Contrast potentiometers (2)	X	X			

2215.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's func

2215.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this

a. Loss of electrical power
b. Loss of Display Generator Unit (DGU) System

.52 How does this system interface with the following:

a. Brief/debrief display consoles
b. Display Generator Unit (DGU) System

2215.6 SAFETY PRECAUTIONS - None to be discussed.

2216 DIGITAL COMPUTER (AN/UYK-7) (ADVANCED) SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2216.1 What is the function of this system?

.11 Refer to the actual equipment.

2216.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components a
parts:

A. What is its function?
B. Where is it located?
C. What are the probable indications if this component fai

	A	B	C
.21 Maintenance control panel (MCP) input/output controller (IOC) section	X	X	X
a. Input/output timing indicators (4)	X	X	
b. Command memory chain address pointer (CMP) pushbutton/indicator	X	X	
c. IOC control memory upper (CMU) pushbutton/ indicator	X	X	
d. IOC control memory lower (CML) pushbutton/ indicator	X	X	
e. Interrupt lockout register (ILR) pushbutton/ indicator	X	X	
f. Channel active flip-flops (CHAN) pushbutton/ indicator	X	X	
g. Chain active flip-flops (CHAIN) pushbutton/ indicator	X	X	
h. Control memory address pushbutton indicators (2)	X	X	
i. Buffer pushbutton/indicator	X	X	
j. Instruction (INST) pushbutton/indicator	X	X	
k. Execute pushbutton/indicator	X	X	
l. Scan pushbutton/indicator	X	X	
.22 MCP central processing unit (CPU) section	X	X	X
a. Central processing register pushbutton/ indicators (32)	X	X	
b. Clear pushbutton/indicators (3)	X	X	
c. Register select pushbutton/indicators (8)	X	X	

2216.3 PRINCIPLES OF OPERATION (CONT'D)

.33 What indications will you receive if the system is malfu

2216.4 PARAMETERS - None to be discussed.

2216.5 SYSTEM INTERFACE - None to be discussed.

2216.6 SAFETY PRECAUTIONS - None to be discussed.

Reference:

a. NAVAIR 16-45-1980-1

217.1 What is the function of this system?

.11 Refer to the actual equipment.

217.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and compon
parts:

A. What is its function?
B. Where is it located?

.21 Disk status panel
a. Logic unit select code toggle switches (4)
b. Voltage indicator
c. On cylinder (W + R) indicator
d. On cylinder (W - R) indicator
e. Multihead select indicator
f. Seek error indicator
g. Write indicator
h. No head select indicator
i. Servo track indicator
j. Clear pushbutton switch

.22 Power supply panel
a. +20, -20 indicator fuses
b. OA, OB, OC spare indicator fuses

217.3 PRINCIPLES OF OPERATION - None to be discussed.

217.4 PARAMETERS - None to be discussed.

217.5 SYSTEM INTERFACE - None to be discussed.

217.6 SAFETY PRECAUTIONS - None to be discussed.

2218 RECORDER/REPRODUCER DISK STORAGE UNIT (RD-281(V)/UYK) (ADVANCED) SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2218.1 What is the function of this system?

.11 Refer to the actual equipment.

2218.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and parts:

A. What is its function?
B. Where is it located?
C. What are the positions and functions of each position?

	A	B	C
.21 Disk operator panel	X	X	
a. Data control select rotary switch/indicators	X	X	X
b. Operation control switches (6)	X	X	X
c. Step pushbutton	X	X	
d. Single-step distribution rotary switch	X	X	X
e. Interface byte select rotary switch	X	X	X
f. Instruction entry toggle switches (18)	X	X	
g. Data entry toggle switches (6)	X	X	
h. Register select rotary switch	X	X	X

2218.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's fu

.32 What is the sequence of component involvement to accomplish of operations?

.33 What indications will you receive if the system is malfunctior

2218.4 PARAMETERS - None to be discussed.

2218.5 SYSTEM INTERFACE - None to be discussed.

2218.6 SAFETY PRECAUTIONS - None to be discussed.

Reference:

a. NAVAIR 16-45-1980-1

2219.1 What is the function of this system?

.11 Refer to the actual equipment.

2219.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and com
parts:

A. What is its function?
B. Where is it located?
C. What are the positions and functions of each position?

		A	B	C
.21	OA-7984/UYK(V) control panel	X	X	
	a. Output pushbutton indicators (PBIs) (8)	X	X	
	b. Input PBIs (8)	X	X	
	c. Master clear (MC) pushbutton	X	X	
	d. Tape levels rotary switch	X	X	X
	e. Read PBI	X	X	
	f. Punch PBI	X	X	
	g. Copy PBI	X	X	
	h. Read/read one toggle switch	X	X	
	i. Tape feed PBI	X	X	
	j. Start read PBI	X	X	
.22	Paper tape perforator	X	X	
.23	Paper tape reader	X	X	
.24	Paper tape reader power on toggle switch	X	X	

2219.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's funct

.32 What indications will you receive if the following are malfunctio

a. Paper tape reader
b. Paper tape punch

2219.4 PARAMETERS - None to be discussed.

a. NAVAIR 16-45-1980-1

2220.1 What is the function of this system?

.11 Refer to a standard print of this system or to the actual equ

2220.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and parts:

A. What is its function?
B. Where is it located?

.21 Magnetic tape system maintenance panel
a. Input data request pushbutton indicator (PBI)
b. Output data request PBI
c. External function request PBIs (2)
d. Computer register PBIs (36)
e. Clear computer register pushbutton
f. Display register indicator pushbuttons (16)
g. Clear display register pushbutton
h. Display register address PBIs (8)
i. Clear display register address pushbutton
j. Write active PBI
k. Read active PBI
l. Write register indicators (9)
m. Read register indicator pushbuttons (9)
n. Clear read register pushbutton
o. Run potentiometer
p. Stop potentiometer

2220.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's f

.32 What is the sequence of component involvement to accomplish offline operations?

.33 What indications will you receive if the system is malfunctio

2220.4 PARAMETERS - None to be discussed.

2220.5 SYSTEM INTERFACE - None to be discussed.

2221 HIGH-SPEED PRINTER (HSP) (RO-280/UYK) (ADVANCED) SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2221.1 What is the function of this system?

.11 Refer to the actual equipment.

2221.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and parts:

A. What is its function?
B. Where is it located?

.21 Maintenance panel
a. Voltage select rotary switch
b. Master clear (MC) pushbutton
c. Stop pushbutton
d. Start pushbutton
e. Overtemperature indicator
f. Power fault indicator
g. Status indicators (4)
h. Input/output control indicators (4)
i. Data character toggle switches/indicators (7)
j. Address count toggle switches/indicators (8)
k. Paper instruction indicators (5)
l. Instruction indicators (5)

2221.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's f

.32 What is the sequence of component involvement to accomplish o operations?

.33 What indications will you receive if the system is malfunctio

2221.4 PARAMETERS

For the items listed answer the following questions:

2222 DIGITAL MAGNETIC TAPE (DMT) (RD-348/ASH) (ADVANCED) SY

Reference:

a. NAVAIR 16-45-1980-1

2222.1 What is the function of this system?

.11 Refer to the actual equipment.

2222.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following componer parts:

A. What is its function?
B. Where is it located?

.21 Digital magnetic tape controller (DMTC)
a. Power supply indicators (5)
.22 DMTC/digital magnetic tape unit (DMTU) command code in

2222.3 PRINCIPLES OF OPERATION - None to be discussed.

2222.4 PARAMETERS - None to be discussed.

2222.5 SYSTEM INTERFACE - None to be discussed.

2222.6 SAFETY PRECAUTIONS - None to be discussed.

2223 FAST/SLOW INTERFACE ADAPTER (FSIA) (ADVANCED) SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2223.1 What is the function of this system?

.11 Refer to a standard print of this system or to the actual equip

2223.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and c
parts:

A. What is its function?
B. Where is it located?

.21 Fast/slow (F/S) interface control panel
a. Channel A switch
b. Channel B switch
c. Control line monitor lights (10)
d. Clock/lamp test pushbutton/indicator

2223.3 PRINCIPLES OF OPERATION - None to be discussed.

2223.4 PARAMETERS - None to be discussed.

2223.5 SYSTEM INTERFACE - None to be discussed.

2223.6 SAFETY PRECAUTIONS - None to be discussed.

2224 TELETYPEWRITER SET (OJ-212(V)/UYK) (UGC-13 MOD) (ADVANCED) SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2224.1 What is the function of this system?

.11 Refer to a standard print of this system or the actual equipm

2224.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and parts:

A. What is its function?
B. Where is it located?
C. What are the modes of operation or control?
D. What are the positions and functions of each position?

		A	B	C	D
.21	Adapter test panel	X	X		
	a. Teletype speed (words per minute) rotary switch	X	X	X	X
	b. Line current adjustments (2)	X	X		
	c. Marginal check toggle switch	X	X		
.22	Adapter control panel	X	X		
	a. Output pushbutton indicator (PBI)	X			
	b. Input PBI	X			
.23	Transmitter-distributor unit	X	X		
	a. Release button	X	X		
	b. Start/stop switch	X	X		
.24	Auxiliary reperforator control panel	X	X		
	a. Send/receive toggle switch	X	X		
.25	Mode selector knob	X	X	X	X

2224.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's f

.32 What indications will you receive if the system is malfunctio

2224.4 PARAMETERS - None to be discussed.

2224.5 SYSTEM INTERFACE - None to be discussed.

2225 MINICOMPUTER (AN/UYK-20(V)) CONTROL UNIT (ADVANCED) SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2225.1 What is the function of this system?

.11 Refer to the actual equipment.

2225.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and parts:

A. What is its function?
B. Where is it located?

.21 Maintenance control panel (MCP)
a. Microaddress pushbutton/indicator
b. Microinstruction pushbutton/indicator
c. Instruction register pushbutton/indicator
d. Diagnostic toggle switches (2)
e. Microstep pushbutton/indicator
f. Operation (OP) step pushbutton/indicator

2225.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's f

.32 What is the sequence of component involvement to accomplish o operations?

.33 What indications will you receive if the system is malfunctio

2225.4 PARAMETERS - None to be discussed.

2225.5 SYSTEM INTERFACE - None to be discussed.

2225.6 SAFETY PRECAUTIONS - None to be discussed.

2226.1 What is the function of this system?

.11 Refer to the actual equipment.

2226.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components an parts:

A. What is its function?
B. Where is it located?
C. What are the positions and functions of each position?

	A	B	C
.21 Power panels (2)	X	X	
a. Voltage select rotary switches (2)	X	X	X
b. Direct-current (DC) voltage meters (2)	X	X	
.22 Maintenance panel	X	X	
a. Load rate switch	X	X	
b. Test pattern select rotary switch	X	X	X
c. Enter pushbutton	X	X	
d. Auxiliary display select rotary switch	X	X	X
e. Auxiliary display read pushbutton	X	X	
f. Auxiliary display increment address pushbutton	X	X	
g. Output data display/address entry group	X	X	
h. Input data/auxiliary display group	X	X	
i. Headset switch	X	X	
j. Headset jack	X	X	
k. Operation rate toggle switch	X	X	
l. Single-step pushbutton	X	X	

2226.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's

.32 What is the sequence of component involvement to accomplish offline functions?

.33 What indications will you receive if the system is malfuncti

2226.4 PARAMETERS

For the items listed answer the following questions:

SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2227.1 What is the function of this system?

.11 Refer to the actual equipment.

2227.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and com
parts:

A. What is its function?
B. Where is it located?
C. What is the source of power?
D. What are the probable indications if this component fails?
E. What are the positions and functions of each position?

		A	B	C	D	E
.21	Multicall internal communications system panel	X	X		X	
	a. Release (REL) indicator	X	X			
	b. Call indicator	X	X			
	c. Busy indicator	X	X			
	d. Press-to-release pushbuttons (2)	X	X			
	e. Station selector pushbuttons (20)	X	X			
	f. Volume rotary attenuator switch	X	X		X	X
	g. Speaker	X	X			
	h. Dimmer rotary switch	X	X		X	X
	i. Microphone or handset connector	X	X			
	j. Hands free/normal/press-to-talk rotary switch	X	X		X	X
.22	Ultrahigh-frequency (UHF) radio control panel	X	X		X	
	a. Carrier on indicator	X	X			
	b. Power indicator	X	X			
	c. Earphone level potentiometer	X	X			
	d. Start/stop transmitter pushbutton	X	X			
	e. Handset or chest set connector	X	X			
	f. Microphone jack	X	X			
	g. Phone jack	X	X			
	h. Key jack	X	X			
.23	Manual entry panels (MEPs) (5)	X	X	X	X	
	a. Communication monofunction (MONO) pushbutton indicators (PBIs) (20)	X	X			

.31 How do the components work together to achieve the syst

.32 What indications will you receive if the system is malf

2227.4 PARAMETERS - None to be discussed.

2227.5 SYSTEM INTERFACE

.51 How do the following outside influences affect this sys

a. Loss of electrical power
b. Loss of ship's radio circuits
c. Loss of Display Generator Unit (DGU) System
d. Loss of system control unit

.52 How does this system interface with the following:

a. Display Generator Unit (DGU) System
b. System control unit

2227.6 SAFETY PRECAUTIONS

.61 What general safety precautions apply to this system?

SYSTEM

Reference:

a. NAVAIR 16-45-1980-1

2228.1 What is the function of this system?

.11 Refer to the actual equipment.

2228.2 SYSTEM COMPONENTS AND COMPONENT PARTS

Discuss the designated items for the following components and comp
parts:

A. What is its function?
B. Where is it located?

.21 Control panel
a. Call reset pushbutton
b. Lamp test pushbutton
c. ASM input indicators (3)
d. ASM output indicators (5)
e. Call alarm
f. Operator call indicator

.22 Control lines group
a. Output data request pushbutton indicator (PBI)
b. Master clear (MC) PBI
c. Interrupt PBI

.23 Manual control group
a. Status lamp
b. Status request pushbutton
c. Simplex set pushbutton
d. Simplex reset pushbutton
e. Duplex set pushbutton
f. Duplex reset pushbutton
g. X-address thumbwheel switch
h. Y-address thumbwheel switch

2228.3 PRINCIPLES OF OPERATION

.31 How do the components work together to achieve the system's functi

.32 What is the sequence of component involvement to accomplish offlin
communications?

FINAL QUALIFICATION AS CV ANTISUBMARINE WARFARE MODULE (ASWM) AUTOMATIC DATA PROCESSING (ADP) OPERATOR (ADVANCED)

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of desi sections of the Personnel Qualification Standard (PQS). Only specified su may signify completion of applicable sections either by written or oral ex or by observation of performance. The examination or checkout need not co item; however, a sufficient number should be covered to demonstrate the ex knowledge. Should supervisors "give away" their signatures, unnecessary c can be expected in future routine operations.

This qualification section is to be maintained by the trainee and upda ensure awareness of remaining tasks.

QUALIFICATION

Having observed satisfactory performance, it is recommended the traine be designated a qualified CV ANTISUBMARINE WARFARE MODULE (ASWM) AUTOMATIC PROCESSING (ADP) OPERATOR (ADVANCED) (2302).

RECOMMENDED_____ DATE_____
(Supervisor)

RECOMMENDED_____ DATE_____
(Division Officer)

RECOMMENDED_____ DATE_____
(Department Head)

QUALIFIED_____ DATE_____
(Commanding Officer)

SERVICE RECORD ENTRY_____ DATE_____
(Personnel Officer)

(ADP) OPERATOR (ADVANCED)

QUALIFICATION SUMMARY

PQS INDOCTRINATION

COMPLETED _____
(Training Officer/Date)

AUTOMATIC DATA PROCESSING (ADP) OPERATOR (BASIC) (2301)

Recommended _____
(Supervisor/Date)

Recommended _____ QUALIFIED _____
(Division Officer/Date) (Department Hea

WORKSTATION - AUTOMATIC DATA PROCESSING (ADP) OPERATOR (BASIC)

Estimated completion time: 34 weeks

Before starting your assigned tasks, complete the following items:

Fundamentals: 2101 thru 2106, 2111, 2112 (26% of workstation)

Systems: 2201 thru 2214 (54% of workstation)

..1 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What safety precautions must be observed?
E. What parameters must be monitored?
F. Perform this task.

		A	B	C	D	E	F
.11	Initialize ASW module computer system	X	X	X	X	X	X
	(Signature) (Date)						
.12	Maintain ADP logs	X	X				X
	(Signature) (Date)						
.13	Operate ADP preflight programs	X	X	X			X
	(Signature) (Date)						
.14	Operate ADP postflight programs	X	X	X			X
	(Signature) (Date)						
.15	Update index files	X	X	X			X

2301.1 TASKS (CONT'D)

		A	B
.18	Update system time	X	X

(Signature) (Date)

.19	Operate magnetic reel tape utility programs	X	X

(Signature) (Date)

.110	Operate internal communications subsystem	X	X

(Signature) (Date)

.111	Rewind RD-348 in offline mode	X	X

(Signature) (Date)

.112	Master clear RD-348 in offline mode	X	X

(Signature) (Date)

.113	Erase RD-348 in offline mode	X	X

(Signature) (Date)

.114	Load electrostatic teletypewriter paper, paper tape and high-speed printer paper into appropriate units	X	X

(Signature) (Date)

Completion of .1 area comprises 6% of workstation.

2301.2 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?

2301.2 INFREQUENT TASKS (CONT'D)

	A	B	C	D
.22 Interpret operator error messages	X	X		

(Signature) (Date)

.23 Mount disk packs	X	X	X	X	X

(Signature) (Date)

.24 Alter status of ASWM peripherals	X	X	X	

(Signature) (Date)

.25 Format disk pack	X	X	X	

(Signature) (Date)

Completion of .2 area comprises 6% of workstation.

2301.3 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate ac
not taken?
F. How does this condition affect other operations/equipment/
watchstations?
G. What followup action is required?
H. Perform or simulate the corrective/immediate action for th
abnormal condition.

.31 High temperature/humidity

(Signature) (Date)

.32 Abnormal processing

2301.4 EMERGENCIES

For the emergency conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if imm action is not taken?
F. How does this emergency affect other operations/equipme watchstations?
G. Perform or simulate the immediate action for this emerg condition.

.41 Power loss

(Signature) (Date)

.42 Power surge

(Signature) (Date)

Completion of .4 area comprises 3% of workstation.

2301.5 WATCHES

Stand 3 satisfactory watches under qualified supervision.

SIGNATURE

Before starting your assigned tasks, complete the following it

Workstations: 2301

Fundamentals: 2107 thru 2110 (23% of watchstation)

Systems: 2215 thru 2228 (55% of watchstation)

2302.1 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. Perform this task.

		A	B	C	D
.11	Isolate system problems	X	X	X	X
	(Signature) (Date)				
.12	Supervise ASWM ADP operations	X	X	X	X
	(Signature) (Date)				
.13	Maintain required reports	X	X		X
	(Signature) (Date)				
.14	Accomplish offline equipment operations	X	X	X	X
	(Signature) (Date)				
.15	Generate computer operational program tapes	X	X	X	X
	(Signature) (Date)				
.16	Generate carriage control loop	X	X		X

(Signature) (Date)

Completion of .1 area comprises 13% of watchstation.

2302.2 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What conditions require this infrequent task?
E. Perform or simulate this task.

.21 Operate degraded programs

(Signature) (Date)

.22 Modify computer memory

(Signature) (Date)

.23 Modify operational programs

(Signature) (Date)

Completion of .2 area comprises 7% of watchstation.

2302.3 ABNORMAL CONDITIONS - None to be discussed.

2302.4 EMERGENCIES - None to be discussed.

2302.5 WATCHES

Stand 3 satisfactory watches under qualified supervision.

SIGNATURE D

Personnel Qualification Standard
Information Report and Suggestion Sheet
PQS DEVGRU AUTOVON 957-5367

_____DATE_____

ty_____

g Address_____

_____AUTOVON #_____

tandard Affected_____NAVEDTRA #_____

n Affected_____

_____

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s/Recommendations (Use additional sheets if necessary)

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